



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,930	03/01/2004	Yoshiki Ishii	1232-5318	3251
27123 7590 01/04/2008 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER HENN, TIMOTHY J	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 01/04/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com  
Shopkins@Morganfinnegan.com  
jmedina@Morganfinnegan.com

<b>Office Action Summary</b>	Application No. 10/790,930	Applicant(s) ISHII, YOSHIKI	
	Examiner Timothy J. Henn	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 10, 12 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 13 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's arguments filed 28 September 2007 have been fully considered but they are not persuasive.
2. With respect to the objection of claims 1-9 and 13, Applicant argues that the second signal processing magnification ratio may be decreased, but still satisfy the requirement that the extraction range is less than the recording image size and refers the to specification, specifically Figures 9 and 22. However, claim 1 as written defines the second signal processing means as executing signal processing "when the magnification ratio of the image is to be decreased". The second to last paragraph goes on to define a mode wherein a switchover is made between the first mode and second mode when a "telephoto side is continuously selected". Since a telephoto side of the zoom switch is being operated, a magnification ratio of the image is clearly not being decreased. Therefore, the claim limitations are in direct contradiction with each other. Since the first mode defines an operation where the magnification ratio is increasing, reading the second signal processing means as executing when the signal means is to be increased as described in the previous office action is consistent with both the claimed functions of claim 1 and the specification.
3. However, it is further noted that even if the second signal processing means operates when increasing and decreasing the zoom magnification ratio, Itoh would meet at least these limitations by defining different zooming operations for different zoom ranges. For example, if while in a magnification range where interpolation is required, a zooming out operation is instructed and a zooming out operation is halted while still in a

range where interpolation is required, the camera of Itoh would still perform the second signal processing.

4. With respect to claim 15, Applicant argues that Itoh does not disclose first and second electronic zoom means as claimed. However, Itoh clearly shows a zoom operation including cropping (i.e. a first electrical zoom means; Paragraphs 0010 and 0041) and interpolation (i.e. a second electrical zoom means; Paragraphs 0010 and 0042-0044)) as described. Itoh further discloses a switching means for executing only the first electrical zoom means and the first and second zoom means (i.e. Figure 5; Paragraph 0042; zoom forcing signal). Therefore, it is believed that Itoh anticipates the limitations of claim 15 since Itoh discloses two distinct electrical zoom processes.
5. With respect to claims 1-9 and 13, Applicant argues that the rejection is based on an erroneous interpretation. However, as discussed above, the claim as written is in direct contradiction with itself, and even if it were to be interpreted as argued by Applicant, Itoh in view of Anderson would still read on the claim limitations. Applicant further argues that Itoh does not disclose first and second signal processing means/steps. However, as discussed above with respect to claim 15, Itoh discloses first means/step which uses cropping to performing a zooming operation and a second means/step which uses interpolation to performing a zooming operation and switching between different modes where only the first or both the first and second are used in zooming.
6. Finally, Applicant argues that Itoh in view of Anderson does not disclose inhibiting a second signal processing mode. However, Itoh discloses a warning

operation which prevents the second signal processing mode from executing unless a zoom forcing signal is input (e.g. Paragraph 0042). Since Itoh does not automatically transition between the first mode and instead prevents or "inhibits" the second signal processing for at least until a zoom forcing signal is input, Itoh meets this limitation as claimed. If this warning was turned off as described by Parulski, such in inhibiting operation would not be performed. Therefore, Itoh in view of Parulski meets the limitations as claimed. Therefore, Applicants arguments are not considered persuasive and the objections to the claims as well as the rejections based on Itoh are hereby maintained.

7. Applicant's amendments to the title and drawings overcome the previous objections which are hereby withdrawn. The drawings received 28 September 2007 are accepted.

### ***Claim Objections***

8. Claims 1-9 and 13 are objected to because of the following:

#### **[claims 1-9 and 13]**

Claims 1-9 and 13 contain the limitation of a second signal processing means which "increase[es] a number of pixels to be recorded than that of the acquired pixels when the magnification ratio of the image is to be decreased". However, the specification discloses a second signal processing which occurs when the magnification ratio of the image is to increased past what is possible through a first processing means (e.g. Figures 9 and Figures 14-16). Furthermore, from Figure 9 it can be seen that the

output image is kept at a fixed resolution and not increased to be more "than that of the acquired pixels" as claimed. It is unclear from the specification and the claim as written how a system which increases a number of pixels to be recorded when a magnification ratio is to be decreased can obtain such a result when the process of increasing the pixels occurs when a telephoto selection is continually selected (see for example, second to last paragraph of claim 1). For the purposes of art rejection, claim 1 and 13 will be read as requiring a second signal processing means which "increase[es] a number of pixels to be recorded when the magnification ratio of the image is to be increased".

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Itou (JP 2001-197347).

**[claim 15]**

Regarding claim 15, Itou discloses an image sensing apparatus which has an optical zoom function (Figure 1, Item 22) and an electrical zoom function (Figure 1, Item 60) and in which a sensed image sensed at a photographing magnification ratio covered by the optical zoom function is recorded as a reduced image obtained by reducing the

sensed image to an image having a predetermined number of pixels smaller than a number of pixels of the sensed image (i.e. an output resolution; Paragraph 0036), and when photographing at a magnification ratio more than a maximum photographing magnification ratio covered by the optical zoom function is instructed, an image generated from the sensed image by using the electrical zoom is recorded (Paragraphs 0038-0040), comprising: storage means for storing a set value representing, of photographing magnification ratios that the electrical zoom function copes with, a maximum magnification ratio that is to be used in image sensing (i.e. a condition at which the use of first zoom processing is halted and second zoom processing is started; Paragraphs 0036 and 0042); first electrical zoom means for extracting the image having the predetermined number of pixels from the sensed image to obtain an enlarged image (e.g. Paragraph 0010 and 0041; obtaining image data from a selected range or "cropping"); second electrical zoom means for extracting a partial image of the enlarged image and enlarging the partial image to the image having the predetermined number of pixels to obtain an enlarged image (interpolation; Paragraphs 0010 and 0042-0044) and switching means for switching, in accordance with the set value, between image sensing which is to be executed using both the first electrical zoom means and the second electrical zoom means and image sensing which is to be executed using only the first electrical zoom means (Paragraphs 0041-0044; Figure 5).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 7-9, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177).

**[claim 1]**

Regarding claim 1, Itou discloses a signal processing apparatus (Figure 1, Item 60) which changes a magnification ratio of an image acquired by image sensing means (Figure 1, Item 20), comprising: first processing means for executing first signal processing for reducing a number of pixels to be recorded than that of the acquired pixels when the magnification ratio of the image is to be increased (e.g. Paragraph 0010 and 0041; obtaining image data from a selected range or "cropping"); second signal processing means for executing second signal processing for increasing a number of pixels to be recorded when the magnification ratio of the image is to be increased (interpolation; Paragraphs 0010 and 0042-0044); first detection means for detecting selection of zooming (Figure 1, Item 118; Paragraphs 0038-0040); second detection means for detecting a limit of an increase in magnification ratio of the image by the first signal processing (Paragraph 0042; judgment section 260) and selection means for selecting one of a first mode and a second mode (Paragraph 0042); wherein when the first detection means detects that a zoom operation is continuously selected, the first signal processing is executed and when the second detection means detects



that the increase in magnification ratio of the image by the first signal processing means has reached the limit, the second signal processing means is subsequently executed to enlarge the image (Paragraph 0042). Itou discloses warning a user when further zooming of an image may result in a less than optimal picture prior to performing the second signal processing and does not explicitly disclose a first mode which performs the second signal processing without inhibiting and a second mode which inhibits the second signal processing.

Parulski discloses a digital camera in which different modes can be set for beginner, intermediate and advanced users that control the number and type of messages a camera relates to a user during image capture (c. 19, l. 60 - c. 20, l. 65). The camera of Parulski includes modes which give suggestions regarding the zooming state of an image and at least a mode in which all suggestions are turned off (c. 19, l. 64 - c. 20, l. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include modes as described by Parulski to allow a user to turn off the warning message generated when further zooming is instructed if the user does not desire to receive such messages from the camera. The examiner notes that in an "off" mode the second signal processing would not be inhibited and in an "on" (i.e. beginner) mode, the second signal processing would be inhibited. While Itou in view of Parulski discloses a zoom button and a first detection means, the zoom button and detection means is not explicitly disclosed as including a telephoto side and a wide angle side.

Official Notice is taken that zoom control buttons including telephoto sides and wide angle sides are notoriously well known in the art to provide full control of zooming without requiring two individual switches for zooming out and zooming in instructions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a switch and detection means which includes a telephoto side to allow a user to instruct zooming in and a wide angle side to allow a user to instruct zooming out.

**[claim 7]**

Regarding claim 7, Itou discloses enlarging the signal by the second signal processing (Paragraph 0044; interpolation).

**[claim 8]**

Regarding claim 8, Itou in view of Parulski disclose a signal storage apparatus for storing the image (Figure 1, Item 76; Paragraph 0033). For further details see the rejection of claim 1.

**[claim 9]**

Regarding claim 9, Itou in view of Parulski discloses a signal processing apparatus (e.g. Itou, Figure 1, Item 60); optical variable magnification means for changing a view angle of an object image formed on a light receiving surface of the image sensing means (Figure 1, Item 22 and Item 30) wherein the variable magnification by the optical variable magnification means is executed in first signal processing (Paragraph 0038-0040). For further details see the rejection of claim 1.

**[claim 11]**

Claim 11 is a method claim corresponding to apparatus claim 1. Therefore, claim 11 is analyzed and rejected as previously discussed with respect to claim 1 above.

**[claim 13]**

Claim 13 is a program claim corresponding to apparatus claim 11. Official Notice is taken that it is notoriously well known in the art to implement image processing methods and camera control methods in programs to make use of general purpose processors and to not require the creation of application specific circuits. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of claim 11 in a program to construct the camera using general purpose processors.

13. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177) in view of Hashimoto (US 4,910,599).

**[claim 2]**

Regarding claim 2, Itou in view of Parulski discloses a first signal processing means which reduces an amount of image data, but do not explicitly disclose how this operation is carried out.

Hashimoto discloses an imaging apparatus including an electronic zooming operation in which a reduced amount of data is obtained. The system of Hashimoto uses varying reading signals in order to obtain the needed data while reading out unnecessary portions of the image at a high frequency in a blanking period (c. 5, l. 58 -

c. 6, l. 2). Hashimoto further discloses that a LPF operation is necessary to eliminate degradation of the image due to inclusion of vertical stripes (c. 15, l. 29-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use varying reading signals and a LPF to obtain a reduced image since such an operation is known in the art as an effective method for performing an electronic zooming operation. The examiner notes that a LPF inherently limits a spatial frequency band as claimed.

**[claim 3]**

Regarding claim 3, Hashimoto discloses changing a frequency characteristic of the spatial frequency band limit in accordance with the variable magnification ratio (Figures 13 and 14).

14. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177) in view of Hirose et al. (US 5,838,371).

**[claim 4]**

Regarding claim 4, Itou in view of Parulski discloses second signal processing means which interpolates an image signal, but does not disclose edge enhancement.

Hirose discloses that in an electronic zooming operation, horizontal and vertical resolutions of the image can be degraded resulting in a low apparent resolution and that to improve the apparent resolution edge enhancement should be performed (c. 1, ll. 16-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to include edge enhancement in the second signal processing means to increase the apparent resolution of the resulting image.

**[claim 5]**

Regarding claim 5, Hirose further discloses that the degree of edge enhancement should change in accordance with the magnification ratio (e.g. c. 2, ll. 41-60) to avoid overcorrection of the image.

**[claim 6]**

Regarding claim 6, Itou discloses a zoom switch for commanding a zoom operation (e.g. Figure 1, Item 118). It is noted that if a zoom command is not input, i.e. a magnification of x1, the first and second signal processing will not be performed.

***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 11-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TJH  
12/14/2007

  
LIN YE  
SUPERVISORY PATENT EXAMINER